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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,345	03/05/2002	Chang-Su Kim	INTV.011A	7723
4586	7590	02/07/2005	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			AN, SHAWN S	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,345

Applicant(s)

KIM ET AL.

Examiner

Shawn S An

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-20 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/22 10/15 9/4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Restriction/Election*

1. Applicant's election without traverse of species II corresponding to claims 1-19 in the reply filed on 11/3/2004 is acknowledged. Furthermore, Applicant has canceled claims 20-25.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartung et al (6,804,294 B1).

**Regarding claim 1**, Hartung et al discloses a method of selecting which video sequence frames to skip during an encoding process, the method comprising:

receiving a sequence of frames (Fig. 1B, 12);

for each frame in at least a portion of the sequence of frames, determining a corresponding mean of absolute differences (MAD) value weighted by a temporal parameter between frames bracketing the each frame (Fig. 9); and

at least partly based on the corresponding MAD weighted by a temporal parameter calculated for each frame, skipping frames in the sequence of frames (col. 4, lines 16-60).

Hartung et al does not specifically disclose skipping a first frame in the sequence of frames.

However, Hartung et al teaches selecting exactly one frame out of every consecutive group of M consecutive input frames, but nonetheless permitting the selected frame to be any of the M frames within the group (col. 4, lines 40-47).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing Hartung et al's teaching so as to not select a first frame out of every consecutive group of M consecutive input frames, thereby skipping the first frame in the sequence of frames just as long as an efficient low bit rate coding can be achieved.

**Regarding claim 2**, Hartung et al discloses receiving a target frame rate (col. 4, lines 16-20). Hartung et al also teaches maintaining a target (fixed) frame rate (abs.).

Therefore, it would have been obvious to determine if the target (fixed) frame rate is met with respect to the first frame being skipped as discussed above as one of the way to maintain the target bit rate.

**Regarding claim 3**, Hartung et al discloses selecting a first frame and a second frame for skipping based at least in part on a second corresponding MAD values weighted by a second temporal parameter between frames bracketing the second frame (Fig. 9; abs.).

Therefore, it would have been obvious to select a second frame for skipping based at least in part on a second corresponding MAD values weighted by a second temporal parameter between frames bracketing the second frame in response to determining that the target frame rate is not met with the first frame skipped, to maintain the target bit rate.

**Regarding claim 4**, Hartung et al discloses limiting to a first amount how many consecutive frames can be skipped (abs.).

**Regarding claims 5-6**, Hartung et al teaches selecting exactly one frame out of every consecutive group of M consecutive input frames, but nonetheless permitting the selected frame to be any of the M frames within the group (col. 4, lines 40-47).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing Hartung et al's teaching so as to not select a first intracoded frame and/or a last frame out of every consecutive group of M consecutive input frames, just as long as an efficient low bit rate coding can be achieved.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartung et al (6,804,294 B1) in view of Tahara et al (5,164,828).

**Regarding claim 7**, Hartung et al does not specifically disclose providing a header for the first skipped frame and setting a flag indicating that the first frame is not coded.

However, Tahara et al teaches video signal transmission apparatus/method for coding video signal comprising providing a header for the first skipped frame and setting a flag indicating that the skipped frame is not coded (Fig. 13; col. 21, lines 1-9).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a method of selecting which video sequence frames to skip during an encoding process as taught by Hartung et al to incorporate the Tahara et al's teaching so as to provide the header for the first skipped frame and setting the flag indicating that the first frame is not coded as an efficient way to achieve low bit rate compression.

#### ***Allowable Subject Matter***

5. Claims 8-19 are allowed.

6. The following is an examiner's statement of reasons for allowance:  
claims 8-19 recite the novel features (independent claims 8 and 15 emphasized).

The art of records fail to anticipate or make obvious the novel features as specified above.

Accordingly, if amendment can be made to cancel the rejected claims, the application would be placed in condition for allowance.

#### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Lin (6,192,148 B1), Method for determining to skip macroblocks in encoding video.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S. An* whose telephone number is 703-305-0099. The Examiner can normally be reached on Flex hours (10).
9. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SSA

Primary Patent Examiner

2/3/05